

[3.0034]

A NEW GENUS AND NEW SPECIES OF CECIDOMYIIDAE ON  
PINYON PINE (DIPTERA)<sup>1</sup>

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*Pinyonia edulicola*, new species, which causes a spindle-shaped gall at the base of pinyon pine needles in New Mexico and Colorado is described now to make the name available for a biological study in progress. In 1968 John Durkin of New Mexico State University, Las Cruces, N. M., sent the first specimens of this species for determination and, in 1969, Wayne Brewer of Colorado State University, Fort Collins, Colo., submitted a long series of adults. I gratefully acknowledge their help in providing additional specimens and their permission to describe the new species. Its biology is the subject of a thesis being prepared at Colorado State University by a student of Dr. Brewer.

**Pinyonia**, NEW GENUS

ADULT. Postvertical peak absent. Eyes broadly joined at vertex, facets circular. Male flagellomeres binodose, each node with 1 circumfilum. Palpus I or 2 segmented. Claws simple, evenly curved, shorter than empodium. Female terga I-VIII and male terga I-VI with caudal and lateral setae and without scales; male tergum VII with only caudolateral setae and tergum VIII without setae. Male genitalia: tergum and sternum X bilobed, the sternum deeply so; aedeagus very long, parallel sided, slightly curved in lateral view; telomere dorsoventrally flattened. Ovipositor short but protrusible; lamellae closely juxtaposed medially and, in dorsal view, tapering abruptly to pointed apex.

LARVA. Spatula lost. Papillae not evident. Cuticle smooth except for cephaloventral rows of spinules on abdominal segments.

TYPE SPECIES. *Pinyonia edulicola*, n. sp.

*Pinyonia* belongs to the tribe Contariniini of the supertribe Cecidomyiidi because of the untoothed, evenly curved claws, the characteristic shape of the

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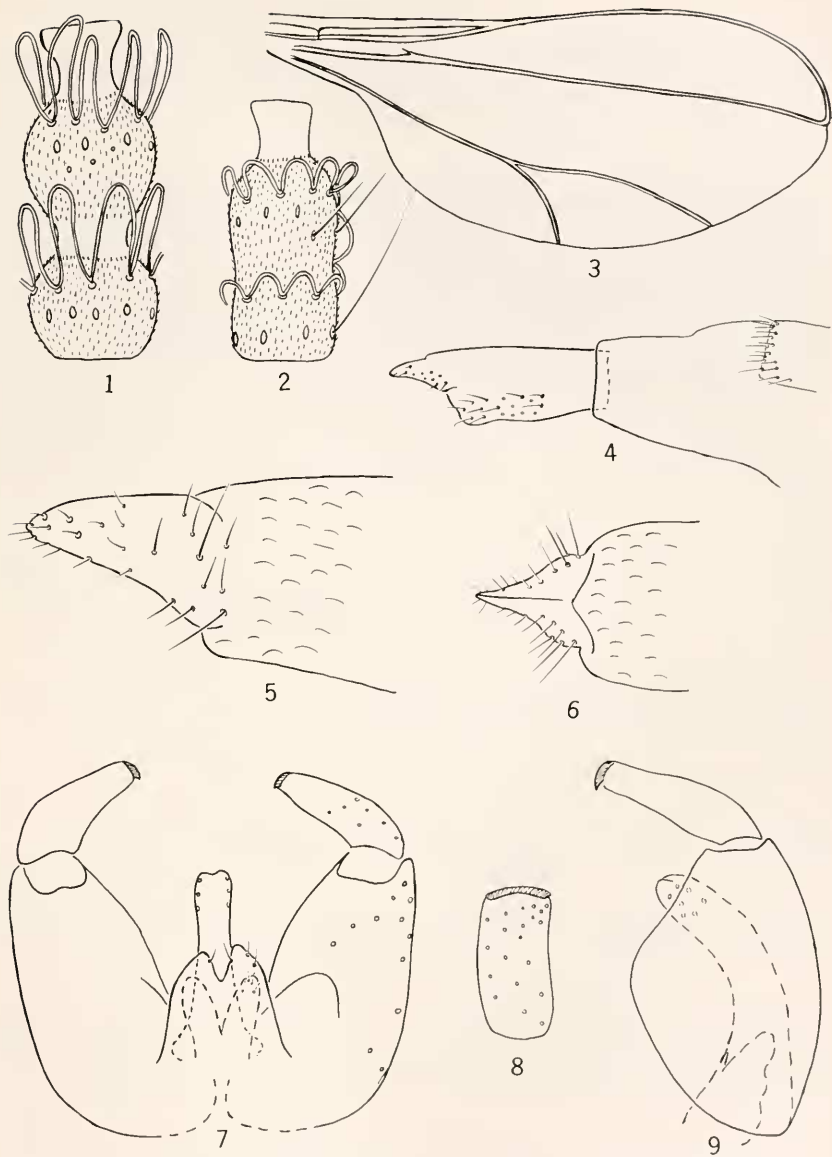
male tergum and sternum X, and the piercing-type ovipositor. It is, however, a very distinctive genus in its very long aedeagus, short ovipositor with the distinctively shaped lamellae, and the most featureless larva I've seen to date. The larva with its lack of spatula and papillae greatly limits the number of characters on which to base judgements concerning relationships to other genera. *Thecodiplosis* Kieffer, which contains many species associated with pine needle galls, resembles this genus in the elongated empodium. This character, however, while possibly indicating relationship, is characteristic of most species in many genera of the Cecidomyiidi and Oligotrophidi that are associated with conifers. *Thecodiplosis* differs from *Pinyonia* in the much smaller straight aedeagus (subequal in length to sternum X), the presence of a full caudal row of setae on the male tergum VII, the long ovipositor with the soft, usually apically rounded lamellae, and the good key character of the three to four segmented palpus. The larvae of *Thecodiplosis* have a spatula, and the full complement of papillae are evident including the enlarged, sclerotized terminal pair. The figures of the genitalia of *Agevillea abietis* Hubault (1945), a needle miner of *Abies alba* Mill. in France, resemble *Pinyonia* in the long aedeagus and dorsoventrally flattened telomereres. On the other hand, the remaining figures in Hubault (1945) show a long ovipositor with soft, apically rounded lamellae, trifilar male flagellomeres, a four segmented palpus, and a strongly curved  $R_5$ . The larva of *A. abietis* lacks conspicuous papillae also except for one tiny terminal pair, but does have a spatula.

#### *Pinyonia edulicola*, NEW SPECIES

ADULT. Wing length (from arculus), 1.55-1.82 mm. Flagellomere III of male and female as in figs. 1 and 2, respectively. Palpus usually 1 segmented but occasionally with a second segment about  $\frac{1}{2}$  length of first. Wing as in fig. 3. Male genitalia as in figs. 7-9. Ovipositor as in figs. 4-6.

*Holotype*, male, emerged from needle galls of *Pinus edulis* Engelm., VI-20-1968, Raton, Colfax Co., New Mexico, A. Woodburn, USNM, Type no. 70807. *Paratypes*: female, same data as holotype; 8 males, 2 females, VI-8-1969, Fort Collins, Colo., M. W. Houseweart; 18 larvae, ex spindle galls *P. edulis*, VI-4-1969, Fort Collins, Colo., M. W. Houseweart.

The only other described species of Cecidomyiidae found associated with pinyon pine needles are *Janetiella coloradensis* Felt and *Contarinia cockerelli* (Felt). The former is in a different supertribe, the Oligotrophidi, and can be separated from *P. edulicola* by the short  $R_5$  which does not reach the apex of the wing, the uninodose male flagellomeres, and the single dorsal lamella of the ovipositor. *C. cockerelli*, known from the female only, is separated from the new species by the long ovipositor, which is approximately as long as the remainder of the abdomen, and by the dorsoventrally flattened, sclerotized lamellae.



Figures 1-9, *Pinyonia edulicola*, n. sp. Fig. 1, male flagellomere III; Fig. 2, female flagellomere III; Fig. 3, wing; Fig. 4, ovipositor; Fig. 5, lamellae of ovipositor (lateral); Fig. 6, same (dorsal); Fig. 7, male genitalia (dorsal); Fig. 8, telomere (caudal); Fig. 9, paramere and aedeagus (lateral).

## Literature Cited

Hubault, E. 1945. Un parasite non encore signalé des aiguilles du sapin blanc (*Abies alba* Mill.). Bull. Biol. de la France et de la Belgique. 79: 17-30, pls. II-V.

2.0034 A new genus and new species of Cecidomyiidae on pinyon pine (Diptera).  
Abstract.—*Pinyonia edulicola*, new genus and new species belong to the tribe Contariniini of the supertribe Cecidomyiidi. *P. edulicola* forms a spindle shaped gall at the base of pinyon pine needles. This new species is distinguished by the long  $R_5$  which reaches the apex of the wing, the binodose flagellomeres of the male, and the short ovipositor of the female. It is distinct from *Contarinia cockerelli*, the only other species of the tribe associated with needles of pinyon. Type locality: Raton, Colfax Co., New Mexico.—Raymond J. Gagné, c/o U. S. National Museum, Washington, D. C. 20560.

Descriptors: Diptera; Cecidomyiidae; *Pinyonia edulicola*; pinyon pine needle gall.